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मानक

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Mazdoor Kisan Shakti Sangathan

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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 10819 (1999): Chromite for Refractory Industry [MTD 13: Ores and Raw Materials]



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“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

अग्निसह उद्योग के लिए क्रोमाइट — विशिष्टि
(पहला पुनरीक्षण)

Indian Standard

CHROMITE FOR REFRACTORY INDUSTRY —
SPECIFICATION

(*First Revision*)

ICS 73.060.30 ; 81.080

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BUREAU OF INDIAN STANDARDS
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NEW DELHI 110002

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Ores and Raw Materials Sectional Committee had been approved by the Metallurgical Engineering Division Council.

This standard was first published in 1984. While reviewing the standard in the light of experience gained during these years, the committee decided to revise it to bring it in line with the present practices being followed by the Indian Industry.

In the present revision the following changes have been made:

- a) One more grade of the chromite has been added.
- b) Chemical composition of the chromite has been modified.

Chromite ores containing low silica (one percent Max SiO_2) are also required by the industry, but as such these ores are not available in the country. So this grade is not being included in the standard.

Chromite finds the second largest use in the production of refractories. Specification for chromite for refractories industry is more exacting compared to the needs of metallurgical industry and as such ideal material for refractory making is very scarce. In view of this and to make the best use of available resources, this standard has been prepared to meet the needs of the manufacturers based on the current practice and available experience.

No marking clause has been included in this standard as chromite is supplied loose.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

CHROMITE FOR REFRACTORY INDUSTRY — SPECIFICATION

(*First Revision*)

1 SCOPE

This standard prescribes the requirements for chromite (chrome ore) for refractory industry.

2 REFERENCES

The following standards contain provisions which through reference in this text, constitute provision of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreement based on this standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below:

IS No.	Title
1387 : 1993	General requirements for the supply of metallurgical materials (<i>second revision</i>)
4737 : 1982	Chromite for chemical industries (<i>first revision</i>)
8562 : 1977	Method of sampling chrome ore

3 SUPPLY OF MATERIALS

General requirements relating to the supply of chromite shall as laid down in IS 1387.

4 GRADES

Chromite has been classified into three grades namely, Grade 1, Grade 2 and Grade 3.

5 CHEMICAL COMPOSITION

The material shall comply with the requirements of Table 1, when analyzed either in accordance with

IS 4737 or by any other established instrumental/chemical method. In case of dispute the procedure given in IS 4737 shall be the referee method. However, when the method is not given in IS 4737 the referee method shall be as agreed to between the purchaser and the manufacturer.

**Table 1 Chemical Composition of Chromite for
Refractory Industry**
(*Clause 5*)

Sl No.	Characteristics (on Dry Basis)	Grade 1 Percent by Mass	Grade 2 Percent by Mass	Grade 3 Percent by mass
(1)	(2)	(3)	(4)	(5)
i)	Loss on ignition	1.5 <i>Max</i>	1.5 <i>Max</i>	1.5 <i>Max</i>
ii)	Cr ₂ O ₃	52 <i>Min</i>	50 <i>Min</i>	48 <i>Min</i>
iii)	Total iron (as FeO)	16 <i>Max</i>	18 <i>Max</i>	18 <i>Max</i>
iv)	SiO ₂	3 <i>Max</i>	7 <i>Max</i>	9 <i>Max</i>
v)	MgO	15 <i>Max</i>	15 <i>Max</i>	15 <i>Max</i>

6 PHYSICAL REQUIREMENTS

The chromite shall be hard, massive, fine grained, serpentine free and lumpy ore.

7 SIZE

Chromite shall be of the size range – 150 mm to + 50 mm.

8 SAMPLING

Representative samples of chromite for testing shall be drawn according to the scheme of sampling given in IS 8562.